August Meetings

Dates & Times
Matinee 2:30 p.m., Wednesday, August 11, 1982
Evenings, 8:00 p.m., Wednesday and Thursday, August 11 and 12, 1982

Place
May Treat Morrison Auditorium

Speaker
Dr. John McCosker

Subject
Sharks: Facts and Fallacies

Sharks: silent savages or misunderstood well-meaning fishes that benefit mankind? Popular misconceptions about the more than 275 living species of sharks have resulted from Hollywood films and headline news of recent beach closures due to shark dangers.

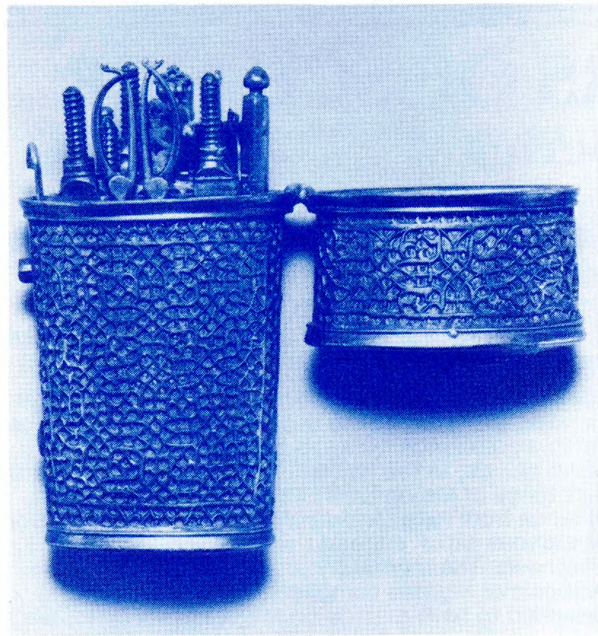
Dr. John McCosker has studied the biology of sharks, both in the Bay Area and across the oceans. He will attempt to demystify the many myths surrounding these survivors that date back to the Devonian era. His research on the biology of the Great White Shark, illustrated with slides and films by cinematographer and Academy research associate Al Giddings, will examine the potential threat to humans as well as the importance of such sharks within the ecosystem. Current research by other elasmobranchologists in the areas of shark deterrents, behavior, and possible cancer curatives will be discussed.

As usual, your membership card will admit you to the Academy's main entrance at Cowell Hall, and through the Wattis Hall entrance for the matinee presentation. Please be prepared to show your card at the auditorium door for the afternoon meeting.

SNEAK PREVIEW FOR SEPTEMBER AND OCTOBER: The Photochrome Club of San Francisco will present the San Francisco International Nature Exhibition, an hour-long program of commentary, music and slides, at the September 8 and 9 members' meetings.

Open House will be held on Wednesday, October 13, in place of our regular members' meeting lecture. It will be held on this one night only so be sure to put the date on your calendar!

Special Exhibits



Pierced steel case containing 17 barber-surgeon instruments
Persia, 18th century

The Heritage of Islam continues in North American Hall through September 26. This exhibition of arts and science lifts the veil of mystery from a tradition followed by 800 million people around the world. **The Heritage of Islam** is part of the San Francisco Summer Festival. For details on special classes and a lecture series on Islam see the Education and Travel section of this Newsletter. The special series entitled "The Traditional World of Islam" will continue to be aired by KQED-TV, Channel 9 on Mondays at 8:00 p.m.

Other continuing exhibits include: **Peoples of East Africa** - 23 watercolor portraits by Hayward artist Clarice Roberts (through September 9); **Dunescapes** - a color photo exhibit of inland sand dunes by Oakland photographer Pamela Roberson (through September 19); **Elephants Have the Right-of-Way** - an exhibit of color photos by Bill Sciallo; **Ansel Adams: The 80th Birthday Retrospective** - organized by Mary Alinder for the Monterey Peninsula Museum of Art and **The Unknown Ansel Adams** organized by Jim Alinder for The Friends of Photography (both through September 6, Labor Day).

Morrison Planetarium

What to do with the children on those foggy August afternoons? Bring them to the Morrison Planetarium and let them ponder some of the mysteries of the cosmos at "Perplexities", the current sky show. Shows daily at 12:30, 2:00 and 3:30 p.m.; additional shows Wednesday through Friday at 11:00 a.m. and Wednesday and Thursday at 7:30 p.m.

Don't forget **Exploring the Skies of the Season,** a tour of the current night sky over San Francisco, shown every Saturday and Sunday at 11:00 a.m. Members may use their complimentary passes for free admission to both of these shows.

Light Shows

Put some zest in your life with a visit to one of Eye See the Light Show, Inc's light shows.

Rock Stars - Thursday at 10:30 p.m., Friday and Saturday at 9:00 and 10:30 p.m., and Sunday at 9:00 p.m.

Lights Fantastic - Wednesday through Sunday at 5:00 p.m.

Spotlight: The Beatles - Wednesday and Thursday at 9:00 p.m., Friday through Sunday at 7:30 p.m.

Admission for adults is $4.00 for evening presentations and $3.50 for matinees (5:00 p.m.). Admission to all shows for children 10 and under and for senior citizens is $2.00. Members' complimentary passes are *not* usable for free admission to the light shows.

Inside the Academy

REMINDER: The San Francisco Gem and Mineral Society will present its 28th Golden Gateway to Gems at the Hall of Flowers, Golden Gate Park, on Saturday, August 7, 1982 at 10 a.m. until 6 p.m. and on Sunday, August 8, 10 a.m. until 5 p.m. Members of the California Academy of Sciences will be admitted at a special price of $1.50 on presentation of their membership cards. General admission is $2.00.

ON THE FRONTIERS OF SCIENCE

A Lecture Series

Sponsored by the California Academy of Sciences, San Francisco State University's School of Science, and Committee for Lectures, Arts and Special Programs.

Six evening lectures (three at San Francisco State University, and three at the Academy) explore fascinating topics which are currently at the forefront of scientific research and are of fundamental importance to you.

Three lectures: "Engineering Your Future" ***Knuth Hall, San Francisco State University*** **8:00 p.m.**

SEPTEMBER 21

"Immediate Benefits of Genetic Engineering"

Dr. Crellin Pauling, *Professor of Genetics and Chair of Biological Sciences, San Francisco State University*

Dr. Crellin Pauling will describe what genetic engineering is and what is involved in the various steps of manipulating DNA. He will discuss the impact of genetic engineering on our lives today and the promise for the near future by citing such examples as the detection of sickle cell anemia carriers, the production by Genentech of a suitable vaccine for hoof and mouth disease, and the production of human insulin for the treatment of diabetes.

SEPTEMBER 28:

"Thinking Machines: Computers and Intelligence"

Dr. Terry Winograd, *Computer Science Department, Stanford University*

Flashback to "2001: A Space Odyssey": Was "HAL" the sophisticated computer, merely science fiction? Or has he become science fact? Dr. Terry Winograd will explain what computers are capable of doing and the limitations of mechanical versus human intelligence. You will gain insight into what computers are thinking about. . . and planning next.

OCTOBER 5

"Is Nuclear War Survivable?"

Dr. Howard Maccabee, *Medical Director, Radiation Oncology Center, Walnut Creek*

Are we approaching a nuclear "Apocalypse"? With many world powers possessing or developing nuclear weapons, the question of survival of an accidental or intentional nuclear explosion is one the world must face. What are the possible consequences and is a nuclear war survivable? Dr. Maccabee will discuss the widely disparate "scenarios" that have been predicted, ranging from limited destruction to total annihilation.

Three lectures: "Evolution Revolution" ***Morrison Auditorium, California Academy of Sciences*** **8:00 p.m.**

OCTOBER 12

"Chemical Evolution and the Origin of Life"

Dr. James Lawless, *Extraterrestrial Research Division, Ames Research Center, NASA*

Studies in chemical evolution and the origin of life encompass the study of the evolutionary path of carbon and its compounds from the primal fireball, through stellar clouds, to the formation of solar systems, to the beginnings of life on Earth. Dr. Lawless will present evidence from extraterrestrial materials and earth-bound substances which support the chemical evolution hypothesis. The laboratory studies of the pre-biological synthesis of organic compounds, under conditions presumed to have existed on the primitive Earth, will be explained. The knowledge gained from these endeavors provides a basis for assessing the probable extent of organic chemical evolution and the possibility of life in extraterrestrial environments.

OCTOBER 19

"Human Evolution: How We Got Our Swollen Heads"

Dr. Glynn Isaac, *Department of Anthropology, University of California, Berkeley and Fellow, California Academy of Sciences*

Ever since Darwin, people have been intrigued by the topic of human evolution. Our curiosity is of two kinds: first, what is the story of human evolution? By what stages were non-human creatures, apes in fact, transformed into humans? Second, why did it happen? What evolutionary processes and influences brought the changes about? Dr. Isaac will focus on what we know about the narrative through the recovery of fossils and archaeology, and will then discuss contemporary research concerned with mechanisms. Scientific information grows daily. . . but how we interpret it still depends very much on our culture and psychology.

OCTOBER 26

"The State of Evolutionary Theory and Why It Is Important To You

Dr. Paul Ehrlich, *Department of Biological Sciences, Stanford University and Fellow, California Academy of Sciences*

Today, one hundred years after the death of Charles Darwin, the process, but not the fact, of evolution is hotly debated by scientists. Dr. Ehrlich will bring you up-to-date on the current areas of ferment in evolutionary theory such as the idea of punctuated equilibria (Is evolution continual or erratic?) and the evolution of *Homo sapiens.* He will then contrast the scientific study of evolution with the pseudoscience of "creationism". Finally, he will show how understanding evolution is not only crucial in dealing with the population-resource-environment crisis, but also in making important personal decisions.

RESERVATION FORM

Tickets are available for the lecture series, ON THE FRONTIERS OF SCIENCE, with this reservation form. Reservations will be accepted in the order of receipt and unfortunately, telephone reservations cannot be accepted for this event.

For further information, call the Education/Travel Office at (415) 221-5100.

TICKET ORDER FORM

Please mail this form along with a check made payable to CREATIVE ARTS BOX OFFICE and a self-addressed, stamped envelope to:

CREATIVE ARTS BOX OFFICE
San Francisco State University
1600 Holloway Ave.
San Francisco, CA 94123

Price: $18 for series of 6 lectures
$4 for individual lectures

Please note: tickets for individual lectures will be sold *at the door* on a space available basis only.

Name _____

Address _____

City _____

Zip Code _____

Daytime Telephone # _____

Number of subscriptions to the

Series _____ at $18 each.

Total amount enclosed. _____

"The Heritage of Islam" Programs

A LECTURE SERIES

"The Heritage of Islam"
Morrison Auditorium
California Academy of Sciences

Our lecture series continues through August and September as we explore the historic traditions and contemporary connections that intertwine Western and Islamic civilizations.

August 18 8:00 p.m.
"The Faith of Islam:
A Religion and a Way of Life" Dr. Barbara Metcalf, Former Professor of History and South Asian Studies, University of Pennsylvania; author of *Islamic Revival in British India.*

September 15 8:00 p.m.
"The Islamic Community"
Dr. Robert Fernea, Professor of Anthropology and Middle Eastern Studies, University of Texas, Austin

September 16 8:00 p.m.
"The Paradise Gardens of Islam"
Dr. Antony Hutt, Lecturer, Islamic Art and Architecture, Coordinator, World of Islam Festival, London

September 22 8:00 p.m.
"The Place of Science in Islamic Society"
Dr. George Saliba, Assistant Professor of Arabic and Islamic Sciences, Department of Middle East Languages and Cultures, Columbia University

Tickets for lectures in the *Lecture Series* will be sold on the night of each presentation on a space-available basis only.

Individual lectures: $3 members, $4 non-members

ADDITIONAL PROGRAMS:
"The Heritage of Islam"

"The Stars of Islam"
August 3 - 17 (3 Tuesday evenings)
7 - 9:00 p.m.
Instructor: Dr. Walt Terris
In the Planetarium

After the fall of Rome, western science languished and the records of scientists, from Ptolemy to Euclid, might have been lost had it not been for the Islamic Renaissance. It was the Muslims who kept and nourished science, particularly astronomy. This scientific heritage is the subject of a three week course in Arabian astronomy.

Tickets for "The Stars of Islam" are available by mail.

Cost: $10 members, $12 non-members

Send a check made payable to the *California Academy of Sciences* to:
Education/Travel Office
California Academy of Sciences
Golden Gate Park
San Francisco, CA 94118

"The Position of Women in Islam"
A Film/Lecture Presentation
Thursday, September 16
2:00 p.m.
Morrison Auditorium
Lecturer: Dr. Elizabeth Warnock Fernea, lecturer on the Middle East and Professor of English, University of Texas, Austin

Dr. Fernea uses the medium of film to introduce the roles of women in Islamic society.

Free admission.

Kenya Safari
August 6-28

Gorilla Tracking in Rwanda
August 26 - September 4

Kenya is a land of great contrasts, from broad sweeping savannah lands to lush mountain peaks. This special itinerary is designed to cover the diverse regions of this colorful African country. Dr. Robert Drewes will lead members on a safari that includes Tsavo National Park, Amboseli National Park, Mountain Lodge for night-time game viewing, Samburu National Park, and camping in the Lake Baringo area and the Maasai Mara Game Reserve. We will fly to Mombasa to relax on Kenya's scenic beaches before our return home. An optional extension into the jungle regions of Rwanda to meet, face-to-face, with the remarkable mountain gorillas is offered for those who wish to participate in a truly unique African experience. Cost is $3190 for the Kenya portion, plus air fare. The Rwanda extension is $1115 plus air fare. For information, please call Siemer & Hand, Ltd. at (415) 788-7186.

Kashmir and Ladakh Walking Expedition
September 2 - 26

Attention vigorous and experienced hikers! With the guidance of Robert Fleming, Jr., one of the foremost Himalayan naturalists, Academy members will participate in a 25-day walking expedition to study the natural history and cultural diversity of Kashmir and Ladakh. A nine-day pony trek into the Vale of Kashmir highlights this special travel experience. Cost is $2190 plus air fare. For information, please call Nature Expeditions at (415) 494-6572.

A Safari In Australia
September 19 - October 10

Dr. and Mrs. Robert T. Orr will lead a trip "down under" to the fascinating continent of Australia, a country of great diversity with tropical and temperate rain forests, colorful deserts, and the Great Barrier Reef which teems with marine life. Highlights include visits to Sydney, Canberra, Melbourne, famous Ayer's Rock in the heart of the continent, Magnetic Island on the Great Barrier Reef, and Lamington National Park. A delightful one-week extension to the north island of New Zealand has also been planned. Cost for land portion is $2860 and air is currently $2083. The New Zealand extension is $563, with no additional cost for air. For information, please call the Academy Travel Office at (415) 221-5100.

Antarctica
Four departure dates: November 13, November 30, December 24, January 17

Truly a unique and exciting destination, Antarctica is a land of abundant wildlife and startling, dramatic beauty. Cruising aboard the *Lindblad Explorer,* one may expect to see huge aggregations of penguins, albatross, terns and other birds, sea lions, fur seals, elephant seals, and porpoises. There will also be opportunities to visit the research stations of Chile and Argentina and the American Palmer Station. Dr. Sylvia Earle, of the Academy, will lead the December 24th and January 17th departures. For information and a colorful brochure, please call the Academy Travel Office at (415) 221-5100.

Baja California Circumnavigated
February 5 - February 19

The *M.V. Northwest Explorer* will make its third annual cruise with Academy members around the Baja California Peninsula. Led by

Ornithology curator, Dr. Luis Baptista, Academy members will see tremendous herds of elephant seals in the San Benitos Islands, and will visit the whale lagoons of the west coast for some "close encounters" with the California gray whales. Rounding the tip of the peninsula, the ship enters the Sea of Cortez where members will see numerous birds, fishes and the bizarre plants of this region. Truly a naturalist's delight! Costs range from $2650 - $3680 plus air fare to San Diego. For information, please call the Academy Travel Office at (415) 221-5100.

The Geology of the Grand Canyon
April 5 - April 9

Academy members will have the opportunity to visit seldom-seen portions of the spectacular Grand Canyon on this five-day river raft and hiking adventure. Starting at Pierce Ferry, we will enter the canyon through the dramatic gates of the Grand Wash Cliffs, moving up river to Separation Canyon by motorized raft, then floating down river by oar power. Short day hikes into pristine areas such as Columbine Falls, Indian Caves, and Gneiss Canyons are supplemented with informal lectures on the geology, archaeology, and natural history of the canyon. This trip is recommended for those who wish a more vigorous travel experience. Led by Academy geologist Jean DeMouthe Smith. Cost is $405 plus transportation. For information, call the Academy Travel Office at (415) 221-5100.

Ethiopia, Egypt and The Red Sea
March 9 - 28

The grandeur of ancient civilizations and a variety of contemporary cultures are the focus of this extraordinary tour, planned especially for Academy members. Picturesque Ethiopia is our first destination as we visit Addis Ababa, Lake Tana—source of the Blue Nile, and a village of Falashas, a distinct ethnic group who practice an archaic form of Judaism. We will also explore numerous architectural wonders before travelling to Egypt. Two days are spent in Cairo before boarding the *M.S. Lindblad Polaris* for a cruise through the Red Sea. Highlights include St. Catherine's Monastery - site of "The Burning Bush", the fabled rose-red city of Petra and the Gubal Islands. Snorkelers will enjoy the abundant marine life in the Gubal Islands and at Hurghada. Costs range from $2970 to $4540 plus air. For information, please call the Academy Travel Office at (415) 221-5100.

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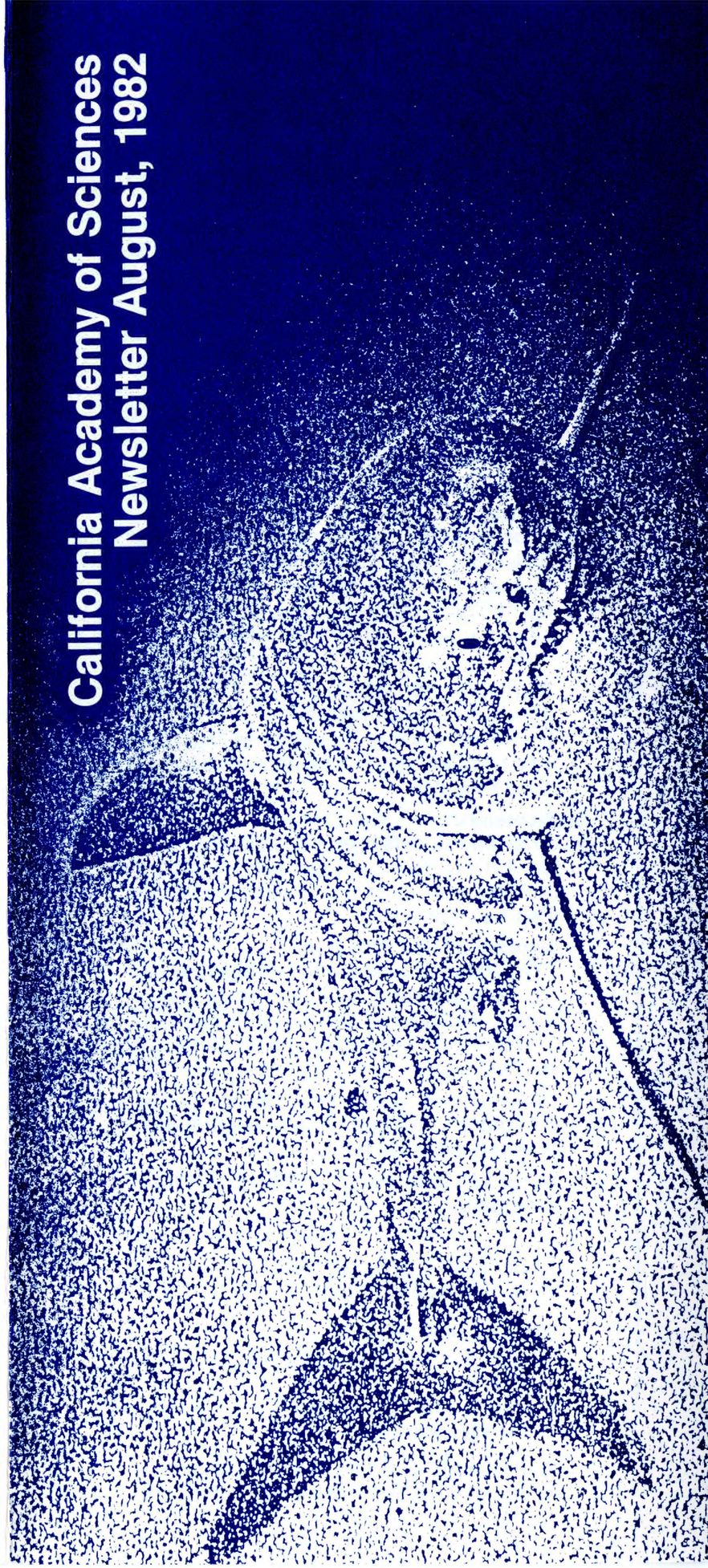
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